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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,169	12/22/2005	Mark Thomas Johnson	NL030735	7674

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EXAMINER	
NGUYEN, PHU K	
ART UNIT	**PAPER NUMBER**
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,169	JOHNSON ET AL.	
	Examiner	Art Unit	
	Phu K. Nguyen	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2300

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/22/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by ZEHNER et al. (WO 03/44765).

As per claim 1, Zehner teaches the claimed "method for calibrating an electrophoretic display panel (1) comprising a plurality of pixels (2) capable of representing at least two optical states by receiving driving signals (30)" (Zehner, apparatus 10), comprising the steps of: "displaying a first calibration image (22) containing said optical states in a first arrangement on said electrophoretic display panel" (Zehner, the final image 120); "providing driving signals (30) to said pixels (2) corresponding to a required image (23) resulting in a second calibration image (24) containing said optical states in a second arrangement on said electrophoretic display panel (1)" (Zehner, the initial image 122 and two prior images 123); "comparing said second calibration image (24) with said required image (23) to determine differences (26) between said second calibration image (24) and said required image (23)" (Zehner, page 24, lines 1-6; the lookup table 124 using the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19) ; "adjusting said

driving signals (30) in accordance with said differences such that said second calibration image (23) and said required image (24) match" (Zehner, the difference between the images 122 and 123 is used to drive the pixel to the desired state; page 26, lines 6-20; page 13, line 19 to page 14, line 14).

Claim 2 adds into claim 1 "said optical states are grey levels" (Zehner, page 13, lines 1-2; the gray levels).

Claim 3 adds into claim 1 "said driving signals corresponding to said required image are provided such that all possible optical state transitions are involved in comparison with said first calibration image" (Zehner, p. 13, line 19 to page 14, line 14).

Claim 4 adds into claim 1 "said first arrangement and said second arrangement comprise one or more blocks (25) of individual pixels or groups of pixels of said display panel" (Zehner, the group of displayed pixels; figure 3).

Claim 5 adds into claim 4 "said blocks substantially entirely cover said electrophoretic display" (Zehner, figure 3, the displayed pixels).

Claim 6 adds into claim 1 "the step of recording said second calibration image by a CCD-camera (21) to determine said differences between said second calibration image and said required image" (Zehner, page 24, lines 1-6; the lookup table 124 using the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19).

Claim 7 adds into claim 1 "said electrophoretic display panel comprises a look-up table (11) with driving signals corresponding to transitions between said optical states for said pixels and said method further comprises the step of modifying said look-up table in accordance with said adjusted driving signals" (Zehner, the look up table 124).

Claim 8 adds into claim 1 "said driving signals comprise driving voltages (33), and/or reset voltages (32) and/or pre-pulse voltages (31) and said adjustment involves modifying the magnitude and/or duration of said voltages and/or changing or introducing periods between the driving voltages and/or introducing additional voltage pulses" (Zehner, the difference between the images 122 and 123 is used to drive the pixel to the desired state; page 26, lines 6-20; page 13, line 19 to page 14, line 14).

Claim 9 adds into claim 1 "said step of displaying said first calibration image (22) comprises the steps of: recording said first calibration image and comparing said first calibration image with a further calibration image; adjusting said driving signals such that said first calibration image and said further calibration image match" (Zehner, page 24, lines 1-6; the lookup table 124 using the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19).

Claim 10 adds into claim 1 "the step of providing further driving signals to said pixels corresponding to further required images and resulting in further calibration images and comparing at least one of said further calibration images with said further required images" (Zehner, the repeating adjustments; page 13, lines 19-30).

Claim 11 adds into claim 1 "said method is repeated one or more times after adjusting said driving signals" (Zehner, page 13, lines 19-22).

As per claim 12, Zehner teaches the claimed "display device (D) having an electrophoretic display panel (1) comprising a plurality of pixels (2) capable of representing at least two optical states" (Zehner, apparatus 10), said device comprising: "means (12) for displaying a first calibration image (22) containing said optical states in a first arrangement on said electrophoretic display panel (1)" (Zehner, the initial image

122 and two prior images 123); "means (12) to provide driving signals (30) to said pixels corresponding to a required image (23) having as a result a second calibration image (24) containing said optical states in a second arrangement" (Zehner, page 24, lines 1-6; the lookup table 124 using the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19) ; "means (12) for adjusting said driving signals (30) to match said second calibration image (24) and said required image (23)" (Zehner, the difference between the images 122 and 123 is used to drive the pixel to the desired state; page 26, lines 6-20; page 13, line 19 to page 14, line 14).

Claim 13 adds into claim 12 "said optical states are grey levels" (Zehner, page 13, lines 1-2; the gray levels).

Claim 14 adds into claim 12 "said device further comprises a look-up table (11) with driving signals corresponding to transitions between said optical states for said pixels and said means for adjusting said driving signals are adapted to modify said look-up table in accordance with said adjusted driving signals" (Zehner, the look up table 124; figure 3).

As per claim 15, Zehner teaches the claimed "method for calibrating an electrophoretic display panel (1) comprising a pixel (2) capable of representing at least two optical states by receiving driving signals (30), (Zehner, apparatus 10)" comprising

the steps of: "displaying a first optical state for said pixel on said electrophoretic display panel (1)" (Zehner, the initial image 122 and two prior images 123); "providing a driving signal (30) to said pixel corresponding to a required optical state having as a result said first optical state or a second optical state for said pixel on said electrophoretic display panel comparing said resulting first or second optical state with said required optical state for said pixel to determine a difference between said resulting first or second optical state and said required optical state" (Zehner, page 24, lines 1-6; the lookup table 124 using the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19) ; "adjusting said driving signal in accordance with said difference such that said resulting first or second optical state and said required optical state of said pixel match" (Zehner, the difference between the images 122 and 123 is used to drive the pixel to the desired state; page 26, lines 6-20; page 13, line 19 to page 14, line 14).

As per claim 16, Zehner teaches the claimed "display device (D) having an electrophoretic display panel (1) comprising a pixel (2) capable of representing at least two optical states by receiving driving signals (30)" (Zehner, apparatus 10), said device comprising: "means (12) for displaying a first optical state for said pixel on said electrophoretic display panel (1)" (Zehner, the final image 120); "means (12) to provide a driving signal (30) to said pixel corresponding to a required optical state having as a result said first optical state or a second optical state for said pixel on said electrophoretic display panel" (Zehner, page 24, lines 1-6; the lookup table 124 using

the difference between the images 122 and 123; page 14, line 25 to page 15, line 21; page 16, lines 7-19) ; "means (12) for adjusting said driving signal (30) to match said resulting first optical state or second optical state and said required optical state" (Zehner, the difference between the images 122 and 123 is used to drive the pixel to the desired state; page 26, lines 6-20; page 13, line 19 to page 14, line 14).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu K. Nguyen whose telephone number is (571) 272 7645. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (571) 272 7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phu K. Nguyen
February 19, 2007

PHU K. NGUYEN
PRIMARY EXAMINER
GROUP 2300